

Application No.: 10/826,866
Office Action Dated: February 9, 2006
Response to Office Action Dated: May 9, 2006

In the Claims:

1. (Currently Amended) A sterile disposable apparatus to heat solution comprising: ~~A protective shock absorbent thermal insulating outer housing; Such outer housing defining a predetermined number of inner chambers; Such inner chambers contain reactants when intermixed form a at least one prolonged exothermic reaction; Such inner chambers form a hollow receptacle; and A self sealing inlet on the outer housing allows instruments to be inserted and submerged in a fluid residing in the hollow receptacle.~~

a housing made of a shock absorbent and thermal insulating material, the housing defining a plurality of inner chambers, an outer surface of the housing defining inlet communicating with the inner chambers;

reactants disposed within the inner chambers that when intermixed form at least one prolonged exothermic reaction;

a hollow receptacle formed by the inner chambers; and

a fluid disposed in the hollow receptacle and to be heated by the reactants;

the inlet being self-sealing and the hollow receptacle being configured to allow instruments to be inserted through the inlet and submerged in and heated via the heated fluid, and to prevent the fluid from spilling out of the inlet.

2. (Currently Amended) A sterile disposable apparatus to heat solution as in claim 1, ~~whereas wherein the outer housing is intended to be attached to any surface is configured to be attachable to an external surface.~~

3. (Currently Amended) A sterile apparatus for heating liquids comprising: ~~A shaped protective shock absorbent thermal insulating outer casing; Such casing containing a multiple of inner chambers; Such inner chambers contain reactants when intermixed form a at least one prolonged exothermic reaction; Such inner chambers encase a solution receptacle; A predetermined chemical fluid is~~

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~~injected into the receptacle; and An instrument is inserted through a self sealing hollow in the outer casing to be submerged in the liquid residing in the receptacle.~~

a casing made of a shock absorbent and thermal insulating material, the casing defining a plurality of inner chambers, an outer surface of the casing defining an inlet communicating with the inner chambers;

reactants disposed within the inner chambers that when intermixed form at least one prolonged exothermic reaction;

a solution receptacle disposed within the inner chambers; and

a chemical fluid disposed in the receptacle and to be heated by the reactants;

the inlet being self-sealing and the receptacle being configured to allow an instrument to be inserted through the inlet and to be submerged in and heated via the heated chemical fluid, and to prevent the chemical fluid from spilling out of the inlet.

4. (Currently Amended) A sterile disposable apparatus to heat solution as in claim 3, ~~whereas wherein the outer housing casing is intended to be attached to any surface~~ is configured to be attachable to an external surface.

5. (Currently Amended) A sterilized endoscopic scope defogger comprising: ~~an insulated rigid outer casing; a multiplicity of chambers formed by the side walls of said casing; such chambers contain exothermic reactive chemicals; a central chamber formed by the peripheral side wall chambers; Such central chamber impregnated with defogging solution; and a cavity within the outer casing to allow the surgical scope to be inserted into the central chamber. said side wall chambers are breached to create a sustained exothermic reaction thus heating the surgical scope~~

a casing made of an insulated substantially rigid material, the casing having sidewalls defining a plurality of sidewall chambers and a central chamber, an outer

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surface of the casing defining a cavity communicating with the central chamber to allow a surgical scope to be inserted into the central chamber;

exothermic reactive chemicals including a catalyst disposed within the sidewall chambers; and

a defogging solution disposed within the central chamber and to be heated by the exothermic reactive chemicals, and wherein the sidewall chambers configured to be breachable to create a sustained exothermic reaction in order to heat a surgical scope submerged in and heated via the heated defogging solution.

6. (Currently Amended) An endoscopic scope defogger as in claim 5 wherein ~~the distal end of the endoscopic lens is inserted into the cavity, submerged in the defogging solution~~ the cavity is configured for receiving a distal end of an endoscopic lens in order to submerge the distal end in the defogging solution.

7. (Canceled)

8. (Currently Amended) An endoscopic scope defogger as in ~~claim 7~~ claim 5 wherein the catalyst for the heating reaction is in gel form in order to achieve a time delay reaction.

9. (Currently Amended) An endoscopic scope defogger as in ~~claim 8~~ claim 5 wherein said ~~outer casing is a~~ includes a shock absorbent material.

10. (Currently Amended) An endoscopic scope defogger as in ~~claim 9~~ claim 5 wherein said ~~outer casing contains~~ has an adhesive coupled thereto.

11. (Currently Amended) An endoscopic scope defogger as in claim 10 wherein said adhesive is ~~VELCRO~~ hook and loop fasteners.

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12. (Currently Amended) An endoscopic scope defogger as in ~~claim 10~~
~~claim 5 wherein said outer casing exterior is attached to a wiping cloth further~~
comprising a wiping cloth coupled to an outer surface of the casing.

13. (Currently Amended) An endoscopic scope defogger as in ~~claim 10~~
~~claim 12~~ wherein said wiping cloth is impregnated with a defogging solution.

14. (Currently Amended) An endoscopic scope defogger as in ~~claim 10~~
~~claim 5 wherein said endoscopic scope defogger casing is~~ made of a disposable
material.

15. (Currently Amended) An endoscopic scope defogger as in ~~claim 10~~
~~claim 5 wherein said endoscopic scope defogger is~~ casing has a compact
configuration.

16. (Currently Amended) A compact portable sterile scope defogger
comprising: ~~an insulated rigid protective outer casing; interior of the casing~~
~~composed of divided compartments; periphery compartments contain a predefined~~
~~number of chemicals to achieve a multiplicity of exothermic reactions upon~~
~~breaching of the periphery compartments; central compartment being formed by~~
~~side walls of the periphery compartments; interior walls of the central compartment~~
~~filled with defogging solution; and a self-sealing cavity in the outer casing to the~~
~~surgical scope to be inserted into the central chamber to be submerged in the~~
~~defogging solution.~~

a casing made of an insulated substantially rigid material, an interior of the
casing defining a plurality of divided compartments including breachable periphery
compartments and a central compartment, an outer surface of the casing defining a

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cavity communicating with the central compartment;

a predefined number of chemicals disposed in the periphery compartments to achieve a plurality of exothermic reactions upon breaching of the periphery compartments;

a defogging solution disposed within the central compartment and to be heated by the chemicals, and wherein the cavity is configured to be self-sealing and the central compartment being shaped to allow a surgical scope to be inserted into the central compartment and submerged in and heated via the heated defogging solution, and to prevent the defogging solution from spilling out of the central compartment.

17. (Currently Amended) A disposable compact portable sterile scope defogger comprising: ~~an insulated rigid protective outer casing; periphery of compartments interconnected with ducts; delicate membrane separating the periphery compartments containing stored chemicals to be breached in order to commence the generation of heat; gas generated upon intermingling of chemicals travel through the ducts to other periphery compartments containing metals which react with the gas to further produce a sustained heat source; central compartment composed of the exterior side walls of the peripheral compartments allowing conduction of heat to be transferred; inner wall of the central compartment filled with defogging solution; and a self sealing cavity in the outer casing allowing the scope to be inserted into the central compartment to be submerged in defogging solution.~~

a casing made of an insulated substantially rigid material, the casing defining a plurality of periphery compartments and a central compartment, an outer surface of the casing defining a cavity communicating with the central compartment;

chemicals disposed in a portion of the periphery compartments;

reactive metals disposed in another portion of the periphery compartments

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adjacent to outer sidewalls of the central compartment;

ducts interconnecting the periphery compartments;

breachable membranes separating the periphery compartments, the
breachable membranes being configured to be breachable for intermingling of the
chemicals to generate an exothermic reaction and for gases generated by the
exothermic reaction to travel through the ducts such that the reactive metals react
with the gas to further generate a sustained exothermic reaction and to transfer heat
to the central compartment;

a defogging solution disposed in the central compartment and to be heated by
the chemicals, and wherein the cavity is configured to be self-sealing and the central
compartment being shaped to allow a surgical scope to be inserted into the central
compartment and submerged in and heated via the defogging solution, and to
prevent the heated defogging solution from spilling out of the central compartment.

18. (Currently Amended) A disposable compact portable sterile scope defogger comprising: ~~an insulated rigid protective outer casing; periphery of compartments interconnected with ducts; delicate membrane separating the periphery compartments containing stored chemicals to be breached in order to commence the generation of heat; gas generated upon intermingling of chemicals travel through the ducts to other periphery compartments containing metals which react with the gas to further produce a sustained heat source; each membrane retains a different decomposition characteristic; central compartment composed of the exterior side walls of the peripheral compartments allowing conduction of heat to be transferred; inner wall of the central compartment filled with defogging solution; and a self-sealing cavity in the outer casing allowing the scope to be inserted into the central compartment to be submerged in defogging solution;~~
a casing made of an insulated substantially rigid material, the casing defining a plurality of periphery compartments and a central compartment, an outer surface

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of the casing defining a cavity communicating with the central compartment;
chemicals disposed in a portion of the periphery compartments;
reactive metals disposed in another portion of the periphery compartments
adjacent to outer sidewalls of the central compartment;
ducts interconnecting the periphery compartments;
breachable membranes separating the periphery compartments, the
breachable membranes being configured to be breachable for intermingling of the
chemicals to generate an exothermic reaction and for gases generated by the
exothermic reaction to travel through the ducts such that the reactive metals react
with the gas to further generate a sustained exothermic reaction and to transfer heat
to the central compartment, and the membranes each retaining a different
decomposition characteristic;
a defogging solution disposed in the central compartment and to be heated by
the chemicals, and wherein the cavity is configured to be self-sealing and the central
compartment being shaped to allow a surgical scope to be inserted into the central
compartment and submerged in and heated via the defogging solution, and to
prevent the heated defogging solution from spilling out of the central compartment.

19. (Canceled)

20. (Currently Amended) A compact portable sterile scope defogger comprising: ~~an insulated rigid protective outer casing; interior of the casing composed of divided compartments; periphery compartments contain a predefined number of chemicals to achieve a multiplicity of exothermic reactions upon breaching of the periphery membranes; each membrane retains a different decomposition characteristic; central compartment being formed by side walls of the periphery compartments; inner wall of the central compartment filled with defogging solution; and a self-sealing cavity in the outer casing allowing the scope~~

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~~to be inserted into the central compartment to be submerged in defogging solution.~~

a casing made of an insulated substantially rigid material, the casing defining a central compartment and a plurality of divided periphery compartments including breachable periphery membranes each having a different decomposition characteristic, the central compartment being defined by sidewalls of the periphery compartments, an outer surface of the casing defining a cavity communicating with the central compartment;

a predefined number of chemicals disposed within the periphery compartments to achieve a plurality of exothermic reactions upon breaching of the periphery membranes;

a defogging solution disposed within the central compartment and to be heated by the chemicals, and wherein the cavity is configured to be self-sealing and the central compartment being shaped to allow a surgical scope to be inserted into the central compartment and be submerged in and heated via the defogging solution, and to prevent the heated defogging solution from spilling out of the central compartment.

21. (Currently Amended) A disposable compact portable sterile scope defogger comprising: ~~an insulated rigid protective outer casing; periphery of compartments interconnected with ducts; delicate membrane separating the periphery compartments containing stored chemicals to be breached in order to commence the generation of heat; gas generated upon intermingling of chemicals travel through the ducts to other periphery compartments containing metals which react with the gas to further produce a sustained heat source; chemical reaction catalyst within the compartments is in gel form to achieve a time delayed reaction; each membrane retains a different decomposition characteristic; central compartment composed of the exterior side walls of the peripheral compartments, allowing conduction of heat to be transferred; the central compartment filled with~~

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~~defogging solution; and a self-sealing cavity in the outer casing allowing the scope to be submerged into the defogging solution resident in the central compartment.~~

~~_____ a casing made of an insulated substantially rigid material, the casing defining a central compartment and a plurality of periphery compartments, an outer surface of the casing defining a cavity communicating with the central compartment;~~

~~_____ chemicals disposed in a portion of the periphery compartments;~~

~~_____ a chemical reaction catalyst disposed within another portion of the periphery compartments, the catalyst being in the form of a gel to achieve a time delayed reaction;~~

~~_____ reactive metals disposed in a further portion of the periphery compartments adjacent to outer sidewalls of the central compartment;~~

~~_____ ducts interconnecting the periphery compartments;~~

~~_____ breachable membranes separating the periphery compartments, the breachable membranes each having a different decomposition characteristic, the breachable membranes being configured to be breachable for intermingling of the chemicals to generate an exothermic reaction and for gases generated by the exothermic reaction to travel through the ducts such that the reactive metals react with the gas to further generate a sustained exothermic reaction and to transfer heat to the central compartment;~~

~~_____ a defogging solution disposed in the central compartment and to be heated by the chemicals, and wherein the cavity is configured to be self-sealing and the central compartment being shaped to allow a surgical scope to be inserted into the central compartment and submerged in and heated via the defogging solution, and to prevent the heated defogging solution from spilling out of the central compartment.~~

22. (Currently Amended) A compact portable sterile scope defogger comprising: ~~an insulated rigid protective outer casing; interior of the casing composed of divided compartments; periphery compartments contain a predefined~~

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~~number of chemicals to achieve a multiplicity of exothermic reactions upon breaching of the periphery membranes; each membrane retains a different decomposition characteristic; central compartment being formed by side walls of the periphery compartments; interior walls of the central compartment being filled with defogging solution; and a self-sealing cavity in the outer casing for the surgical scope to be submerged into the defogging solution of the central chamber.~~

a casing made of an insulated substantially rigid material, the casing defining a plurality of periphery compartments and a central compartment formed by sidewalls of the periphery compartments, the periphery compartments each including a breachable membrane having a different decomposition characteristic;

a predefined number of chemicals disposed in the periphery compartments to achieve a multiplicity of exothermic reactions upon breaching of the breachable membranes; and

a defogging solution disposed in the central compartment and to be heated by the chemicals, and wherein the cavity is configured to be self-sealing and the central compartment being shaped to allow a surgical scope to be inserted into the central compartment and submerged in and heated via the defogging solution, and to prevent the heated defogging solution from spilling out of the central compartment.

23. (Currently Amended) A disposable compact portable sterile scope defogger comprising: ~~an insulated rigid protective outer casing; periphery of compartments interconnected with ducts; delicate membrane separating the periphery compartments containing stored chemicals to be breached in order to commence the generation of heat; gas generated upon intermingling of chemicals travel through the ducts to other periphery compartments containing metals which react with the gas to further produce a sustained heat source; chemical reaction catalysts within the compartments are in gel form to achieve a time delayed reaction. each membrane retains a different decomposition characteristic; central~~

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~~compartment composed of the exterior side walls of the peripheral compartments allowing conduction of heat to be transferred; the central compartment filled with defogging solution; electrical wiring embedded within the central compartment conductively connected to a power source to produce additional heating; and a self sealing cavity in the outer casing allowing the scope to be submerged into the defogging solution resident in the central compartment.~~

a casing made of an insulated substantially rigid material, the casing defining a plurality of periphery compartments and a central compartment, an outer surface of the casing defining a cavity communicating with the central compartment;

chemicals disposed in a portion of the periphery compartments;

a chemical reaction catalyst disposed within another portion of the periphery compartments, the catalyst being in the form of a gel to achieve a time delayed reaction;

reactive metals disposed in a further portion of the periphery compartments adjacent to outer sidewalls of the central compartment;

ducts interconnecting the periphery compartments;

breachable membranes separating the periphery compartments, the breachable membranes being configured to be breachable for intermingling of the chemicals to generate an exothermic reaction and for gases generated by the exothermic reaction to travel through the ducts such that the reactive metals react with the gas to further generate a sustained exothermic reaction and to transfer heat to the central compartment, and the membranes each retaining a different decomposition characteristic;

electrical wiring embedded within the central compartment, the electrical wiring being configured to be electrically coupled to a power source to produce additional heating;

a defogging solution disposed in the central compartment and to be heated by the chemicals, and wherein the cavity is configured to be self-sealing and the central

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compartment being shaped to allow a surgical scope to be inserted into the central compartment and submerged in and heated via the defogging solution, and to prevent the heated defogging solution from spilling out of the central compartment.

24. (Currently Amended) A disposable compact portable sterile scope defogger comprising: ~~an insulated rigid protective outer casing; periphery of compartments interconnected with ducts; delicate membrane separating the periphery compartments containing stored chemicals to be breached in order to commence the generation of heat; gas generated upon intermingling of chemicals travel through the ducts to other periphery compartments containing metals which react with the gas to further produce a sustained heat source; chemical reaction catalysts within the compartments are in gel form to achieve a time delayed reaction; each membrane retains a different decomposition characteristic; central compartment composed of the exterior side walls of the peripheral compartments allowing conduction of heat to be transferred; the central compartment filled with defogging solution; electrical wiring embedded within the central compartment conductively connected to a power source to produce additional heating; AC recharger base to electrically receive the compact portable sterile scope defogger to power the electrical heating; and a self sealing cavity in the outer casing allowing the scope to be submerged into the defogging solution resident in the central compartment.~~

a casing made of an insulated substantially rigid material, the casing defining a plurality of periphery compartments and a central compartment, an outer surface of the casing defining a cavity communicating with the central compartment;

chemicals disposed in a portion of the periphery compartments;

a chemical reaction catalyst disposed within another portion of the periphery compartments, the catalyst being in the form of a gel to achieve a time delayed reaction;

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reactive metals disposed in a further portion of the periphery compartments adjacent to outer sidewalls of the central compartment;

ducts interconnecting the periphery compartments;

breachable membranes separating the periphery compartments, the breachable membranes being configured to be breachable for intermingling of the chemicals to generate an exothermic reaction and for gases generated by the exothermic reaction to travel through the ducts such that the reactive metals react with the gas to further generate a sustained exothermic reaction and to transfer heat to the central compartment, and the membranes each retaining a different decomposition characteristic;

electrical wiring embedded within the central compartment;

an AC recharger base configured to receive the casing and to be coupled to the electrical wiring to produce additional heating;

a defogging solution disposed in the central compartment and to be heated by the chemicals, and wherein the cavity is configured to be self-sealing and the central compartment being shaped to allow a surgical scope to be inserted into the central compartment and submerged in and heated via the defogging solution, and to prevent the heated defogging solution from spilling out of the central compartment.

25. (Currently Amended) A method to defog a surgical scope comprising: ~~inserting the scope within a protective compact insulated container; having the scope submerged in defogging solution contained in the central compartment; breaching the compartments of the peripheral compartments allowing catalyst to react with substrate producing a sustained exothermic reaction; having the scope being in conductive contact with the heat generating chambers; reinserting the scope within the container as needed during a procedure; and utilizing the container as a holster for the surgical scope.~~

providing a thermally insulated container having a housing defining an inlet

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for receiving a scope, a defogging solution disposed within the inlet, the inlet being self-sealing to prevent the defogging solution from spilling out of the inlet, and breachable chambers containing reactants for heating the defogging solution;
breaching the compartments containing the reactants to produce a sustained exothermic reaction to heat the defogging solution; and
periodically inserting a scope as needed during a surgical procedure within the inlet and submerging the scope in the heated defogging solution to heat the scope via the defogging solution.

26. (Currently Amended) A method to defog a surgical scope comprising: ~~inserting the scope within a protective compact insulated container; having the scope submerged in defogging solution in a central compartment; heating the central compartment; having the scope being in conductive contact with the heat generating chamber; reinserting the scope within the container as needed during a procedure; and utilizing the container as a holster to protect the endoscopic scope.~~
providing a thermally insulated container having a housing defining an inlet for receiving a scope, a defogging solution disposed within a central compartment in the inlet, the inlet being self-sealing to prevent the defogging solution from spilling out of the inlet;
heating the central compartment to thereupon heat the defogging solution;
and
periodically inserting a scope as needed during a surgical procedure within the inlet and submerging the scope in the heated defogging solution to heat the scope via the defogging solution.